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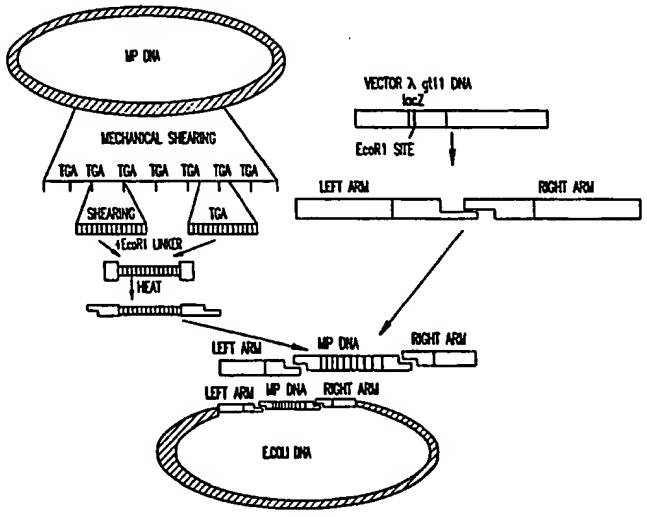
(54) Title: MYCOPLASMA PULMONIS ANTIGENS AND METHODS AND COMPOSITIONS FOR USE IN CLONING AND VACCINATION



(57) Abstract

The cloning, sequencing and expression of an *M. pulmonis* antigen, and the development of cloning and vaccination systems are disclosed. A strategy is described which allows the cloning of antigens despite the presence of codons which would normally cause transcription arrest in *E. coli*. Using this method, an *M. pulmonis* antigen was cloned and produced as a fusion protein, and the major epitope was identified. Transfection into lytic and lysogenic *E. coli* resulted in the production of the product. The antigen was shown to elicit antibody production in mice, including IgG and IgA production in the tracheolong lavage. Transfected lysogenic *E. coli* were used for vaccination. The production of the immunogen can be regulated *in vivo* by controlled feeding with the inducer, IPTG. This method of controlled vaccination, employing inducible immunizing agents, is proposed to be generally applicable to a wide range of organisms and diseases.